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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/787,868

Applicant(s)

BIENEK ET AL.

Examiner

PHILIP J. SOBUTKA

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 64-74 and 80-94 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 94 is/are allowed.
- 6) ☒ Claim(s) 64, 66-68, 70 and 75-77 is/are rejected.
- 7) ☒ Claim(s) 65, 69, 71-74 and 90 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/3508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
3. Claims 64,66-68,70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pietzold, III et al (US 6,091,765) in view of Kautmann (DE 3010707)

Consider claim 64. Pietzold teaches a terminal for use with a mobile phone, comprising:

a transmitter stage (*Pietzold, see figure 6, item 152*);

a receiver stage (*Pietzold, see figure 6, items 150*);

a switch-over and adapter stage (*Pietzold, see figure 1, item 24*), electrically connected to an-antenna (*Pietzold, see figure 1, item 11*) and configured to enable the transmitter stage and the receiver stage (*Pietzold, see figure 1, items 20, 22*) to communicate via the antenna; and

a control unit that is programmable over a wireless interface to actuate the adapter stage and to set a predetermined value of the at least one functional parameter (*Pietzold see figure 1, item 18, column 1, lines 45-65, column 5, line 50 – column 6, line 22*) .

Pietzold lacks a teaching of passive structural elements in with micro switches associated with the passive structural elements, the micro switches or micro relays having a predetermined configuration for actuating the passive structural elements and having at least one functional parameter, the at least one functional parameter comprising a frequency characteristic.

Kautmann teaches a passive structural elements with micro switches for actuating the passive structures elements to control a functional parameter comprising a frequency characteristic (*Kautmann, see figures 1, 2, and pages 2 and 3 of the translation where Kautmann describes the switching unit 3 controlling the frequency of the filter arrangements. Note that Kautmann's arrangement includes an algorithm for calculating the switch arrangement to obtain the frequency parameter, as described in the translation on page 2, paragraphs 7 and 8*).

It would have been obvious to one of ordinary skill in the art to modify Pietzold to use the electronically controlled switching arrangement of Kautmann in order to easily

allow fast computer control of the programming adjustments as taught by Kautmann (see translation page 2, paragraph 6).

Kaufman also lacks a teaching of wherein passive structural elements in the transmitter stage, the receiver stage, and the switch-over and adapter stage are integrated on a common substrate. Official Notice is taken that it is notoriously well known in the art to integrate electrical circuitry on a common substrate. Therefore it would have been obvious to one of ordinary skill in the art to modify Kaufmann to integrate all circuitry on a common substrate in order to reduce the size requirements of the circuitry.

As to claim 66, Pietzold teaches the terminal of claim 64, further comprising: at least one on/off switch for the transmitter stage and the receiver stage; wherein the control unit is programmed to transmit a switch-off signal to the at least one on/off switch, the switch-off signal for deactivating the transmitter stage and/or the receiver stage; and wherein the control unit is programmed to transmit the switch off signal before the micro relays are actuated (*Pietzold teaches deactivating the transmitter and receiver during reconfiguration, see especially column 37, lines 29-60*).

As to claim 67, Pietzold teaches the terminal of claim 66; wherein the control unit is programmed to transmit a switch-on signal to the at least one on/off switch, the switch-on signal for activating the transmitter stage and the receiver stage; and wherein the control unit is programmed to transmit the switch-on signal after termination of a

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program, the program being for determining a configuration of the micro switches or micro relays to set the at least one functional parameter (*Pietzold teaches deactivating the transmitter and receiver during reconfiguration, see especially column 37, lines 29-60*).

As to claim 68, Pietzold teaches the terminal of claim 64, but lacks a teaching of wherein the common substrate has a high dielectric constant. Official notice is taken that a substrate with a high dielectric constant reduces the radiation of interference signals. Therefore it would be obvious to one of ordinary skill in the art to modify Pietzold to use a high dielectric constant in order to reduce the radiation of interference signals.

As to claim 70, Pietzold in view of Kautmann as applied to claim 64, also teaches wherein the control unit comprises: topology memory for storing a topology of the micro switches or the micro relays; algorithm memory for storing code to determine the value of the at least one functional parameter; and a calculation stage to determine a micro switch arrangement or a micro relay arrangement based on the value and the topology (*Note that Kautmann's arrangement includes an algorithm for calculating the switch arrangement i.e. topology to obtain the frequency parameter, as described in the translation on page 2, paragraphs 7 and 8*).

Consider claim 80. Pietzold in view of Kaufman teaches the terminal of claim 64, but lacks a teaching of wherein the passive structural elements comprise capacitors. Official notice is taken that it is notoriously well known to use capacitors in radio adapter stages. Therefore it would have been obvious to one of ordinary skill in the art to modify Pietzold to use capacitors in the adaptor stage in order to utilize conventions adapter elements.

Consider claim 81. Pietzold in view of Kaufman teaches the terminal of claim 64, but lacks a teaching of wherein the passive structural elements form a resonator. Official notice is taken that it is notoriously well known to use resonators in radio adapter stages. Therefore it would have been obvious to one of ordinary skill in the art to modify Pietzold to use resonators in the adaptor stage in order to utilize conventions adapter elements.

Consider claim 82. Pietzold in view of Kaufman teaches the terminal of claim 64, but lacks a teaching of wherein the switch-over and adapter stage comprises a duplexer. Official notice is taken that it is notoriously well known to use duplexers in radio adapter stages. Therefore it would have been obvious to one of ordinary skill in the art to modify Pietzold to use duplexers in the adaptor stage in order to utilize conventions adapter elements.

Consider claim 83. Pietzold in view of Kaufman teaches the terminal of claim 64, further comprising: memory to store topologies of the passive structural elements; wherein the control unit is programmed to actuate the micro switches or micro relays in accordance with at least one of the topologies (*see figure 1, item 14*).

Consider claim 84. Pietzold in view of Kaufman teaches a terminal for use with a mobile phone, comprising:

a adapter stage configured to enable signal transmission and reception via a common antenna (*Pietzold, see figure 1, items 24, 11, 20, 22*); and

a control unit that is programmable to actuate the micro switches or micro relays to thereby affect a configuration of the passive structural elements and set a value corresponding to the frequency characteristic (*Pietzold see figure 1, item 18, column 1, lines 45-65, column 5, line 50 – column 6, line 22*);

wherein the adapter stage is integrated on a common ceramic substrate along with other components of the mobile phone.

Pietzold in view of Kaufman lacks a teaching of wherein the adapter stage comprises a duplexer. Official notice is taken that it is notoriously well known to use duplexers in radio adapter stages. Therefore it would have been obvious to one of ordinary skill in the art to modify Pietzold to use duplexers in the adaptor stage in order to utilize conventions adapter elements.

Pietzold lacks a teaching of the adapter stage comprising passive structural elements in with micro switches associated with the passive structural elements, the micro switches or micro relays having a predetermined configuration for actuating the passive structural elements and having at least one functional parameter, the at least one functional parameter comprising a frequency characteristic.

Kautmann teaches a passive structural elements with micro switches for actuating the passive structures elements to control a functional parameter comprising a frequency characteristic (*Kautmann, see figures 1,2, and pages 2 and 3 of the translation where Kautmann describes the switching unit 3 controlling the frequency of the filter arrangements. Note that Kautmann's arrangement includes an algorithm for calculating the switch arrangement to obtain the frequency parameter, as described in the translation on page 2, paragraphs 7 and 8*).

It would have been obvious to one of ordinary skill in the art to modify Pietzold to use the electronically controlled switching arrangement of Kautmann in order to easily allow fast computer control of the programming adjustments as taught by Kautmann (see translation page 2, paragraph 6).

Kaufman also lacks a teaching of wherein passive structural elements in the transmitter stage, the receiver stage, and the switch-over and adapter stage are integrated on a common substrate. Official Notice is taken that it is notoriously well known in the art to integrate electrical circuitry on a common substrate. Therefore it would have been obvious to one of ordinary skill in the art to modify Kaufmann to integrate all circuitry on a common substrate in order to reduce the size requirements of the circuitry.

Consider claim 85. Pietzold in view of Kaufman teaches the terminal of claim 64, wherein the other components of the mobile phone comprise a transmitter stage for transmitting signals via the common antenna and a receiver stage for receiving signals via the common antenna (figure 1).

Consider claim 86. Pietzold in view of Kaufman teaches the terminal of claim 85, wherein the control unit is programmed to deactivate the transmitter stage and/or the receiver stage before actuation of the micro switches or the micro relays (*Pietzold teaches deactivating the transmitter and receiver during reconfiguration, see especially column 37, lines 29-60*).

Consider claim 87. Pietzold in view of Kaufman teaches the terminal of claim 86, wherein the control unit is programmed to activate the transmitter stage and/or the receiver stage after actuation of the micro switches or micro relays to set the frequency characteristic (*Pietzold teaches deactivating the transmitter and receiver during reconfiguration, see especially column 37, lines 29-60*).

Consider claim 88. Pietzold in view of Kaufman teaches the terminal of claim 84, wherein at the common substrate has a high dielectric constant. Official notice is taken that a substrate with a high dielectric constant reduces the radiation of interference signals. Therefore it would be obvious to one of ordinary skill in the art to modify Pietzold to use a high dielectric constant in order to reduce the radiation of interference signals.

Consider claim 89. Pietzold in view of Kaufman teaches the terminal of claim 84, wherein the control unit comprises: topology memory for storing a topology of the micro switches or the micro relays; algorithm memory for storing code to perform a calculation for obtaining the value of the frequency characteristic; and a calculation stage to determine a micro switch arrangement or a micro relay arrangement based on the value

and the topology. *(Note that Kautmann's arrangement includes an algorithm for calculating the switch arrangement i.e. topology to obtain the frequency parameter, as described in the translation on page 2, paragraphs 7 and 8).*

Consider claim 91. Pietzold in view of Kaufman teaches the terminal of claim 84, but lacks a teaching of wherein the passive structural elements comprise capacitors. Official notice is taken that it is notoriously well known to use capacitors in radio adapter stages. Therefore it would have been obvious to one of ordinary skill in the art to modify Pietzold to use capacitors in the adaptor stage in order to utilize conventions adapter elements.

Consider claim 92. Pietzold in view of Kaufman teaches the terminal of claim 84, but lacks a teaching of wherein the passive structural elements form a resonator. Official notice is taken that it is notoriously well known to use resonators in radio adapter stages. Therefore it would have been obvious to one of ordinary skill in the art to modify Pietzold to use resonators in the adaptor stage in order to utilize conventions adapter elements.

Consider claim 93. Pietzold in view of Kaufman teaches the terminal of claim 84, further comprising: memory to store topologies of the passive structural elements; wherein the control unit is programmed to actuate the micro switches or micro relays in accordance with at least one of the topologies. *(see figure 1, item 14)*

Allowable Subject Matter

4. Claims 65,69,71-74,78,79,90, 94 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Consider claim 65. The nearest prior art as shown in Kautmann and Pietzold fail to teach the terminal of claim 64, wherein the transmitter stage, the receiver stage, or the switch-over and adapter stage comprises a plurality of micro motors, the plurality of micro motors for mechanically adjusting the passive structural elements and having a control connection to the control unit.

Consider claim 71. The nearest prior art as shown in Kautmann and Pietzold fail to teach the terminal of claim 70, wherein the topology memory is configured to store a position and a topology that corresponds to actuator stages of a micro motor.

Consider claim 72. The nearest prior art as shown in Kautmann and Pietzold fail to teach the terminal of claim 70, wherein the calculation stage is configured to calculate an actuation signal for a micro motor, the actuation signal being use to obtain the predetermined value of the at least one functional parameter.

Consider claim 73. The nearest prior art as shown in Kautmann and Pietzold fail to teach the terminal of claim 64, wherein the control unit comprises: a configuration memory for storing a plurality of switching matrices, each switching matrix being assigned a value of the at least one functional parameter; and a pointer stage to associate the configuration memory with the value of the at least one functional parameter.

Consider claim 78. The nearest prior art as shown in Kautmann and Pietzold fail to teach the method of claim 77, wherein the topology memory stores a position and a topology corresponding to actuator stages of the micro motor.

Consider claim 79. The nearest prior art as shown in Kautmann and Pietzold fail to teach the method of claim 77, wherein the determining is performed by a calculation stage, the calculation stage calculating an actuation signal for the micro motor, and the actuation signal for use in obtaining the predetermined value of the functional parameter.

Consider claim 90. The nearest prior art as shown in Kautmann and Pietzold fail to teach the terminal of claim 84, wherein the control unit comprises: configuration memory for storing a plurality of switching matrices, each switching matrix corresponding to a value associated with the frequency characteristic; and a pointer stage to associate the set value of the frequency characteristic with a corresponding switching matrix, the control unit being programmed to actuate the micro switches or micro relays in accordance with the corresponding switching matrix.

Consider claim 94. The nearest prior art as shown in Kautmann and Pietzold fail to teach a terminal for use with a mobile phone, comprising: a transmitter stage; a receiver stage; a switch-over and adapter stage; passive structural elements in the transmitter stage, the receiver stage, and the switch-over and adapter stage; micro switches or micro relays associated with the passive structural elements, the micro switches or micro relays being actable to configure the passive structural elements to produce at least one functional parameter, the at least one functional parameter

comprising a frequency characteristic; and a control unit that is programmable over a wireless interface to actuate the micro switches or micro relays and to set a value of the at least one functional parameter; wherein the control unit comprises: configuration memory for storing a plurality of switching matrices, each switching matrix being assigned a value associated with the at least one functional parameter; and a pointer stage to associate the set value of the at least one functional parameter with a switching matrix stored in the configuration memory.

Response to Arguments

5. Applicant's arguments filed October 30, 2007 have been fully considered but they are not persuasive.
6. Applicant principal argument is that Pietzold's RF sub systems items are not electrically connected to the antenna, however this argument is clearly erroneous as the arrangement simply could not work if the sub systems were not electrically connected.
7. Applicant's other arguments rest on this alleged deficiency, refuted above.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip J Sobotka whose telephone number is 571-272-7887. The examiner can normally be reached Monday through Friday from 8:30 - 5:00.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on 571-272-4711.

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9. The central fax phone number for the Office is 571-273-8300.

Most facsimile-transmitted patent application related correspondence is required to be sent to the Central FAX Number.

CENTRALIZED DELIVERY POLICY: For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the Central FAX number, unless an exception applies. For example, if the examiner has rejected claims in a regular U.S. patent application, and the reply to the examiner's Office action is desired to be transmitted by facsimile rather than mailed, the reply must be sent to the Central FAX Number.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Philip J Sobutka/
Primary Examiner, Art Unit 2618

(571) 272-7887